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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,484	04/27/2001	Gary A. Evans	PDGM-3	9126

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EXAMINER

NGUYEN, DUNG T

ART UNIT PAPER NUMBER

2828

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/844,484

Applicant(s)

EVANS ET AL.

Examiner

Dung (Michael) T Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7-15, 20, and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Itagaki (US5602863).

With respect to claim 1, Itagaki shows in fig.3 a surface emitting semiconducting laser device 100 comprising a waveguide having separate first order reflector gratings 16 at both ends of said waveguide on a first surface of the laser device; an outcoupling location positioned between said gratings on said waveguide, to couple light out of said waveguide through said first surface of the laser device 100.

With respect to claims 14-15 and 27, Itagaki shows in fig.3 a semiconductor laser device 100 comprising a cavity having reflectors 16 at either end and an outcoupling aperture to outcouple light from said cavity; a gain region of said cavity located between said reflectors, said gain region having a first portion on one side of said outcoupling aperture and a second portion on the opposite side of said outcoupling aperture.

With respect to claims 2, 20, and 28, Itagaki discloses the Bragg reflectors (claim 12).

With respect to claims 3-4, 10, 12, and 29, Itagaki discloses in fig.3 and 17b a grating 79 which couples light out of the laser at an angle other than normal to the surface of said laser.

With respect to claims 7-8, Itagaki discloses in Fig.3 a waveguide structure having first and second reflectors 16; a first set of electrodes 20 connected to pump a first gain region portion of said waveguide structure adjacent to said first reflector; a second set of electrodes 20 connected to pump a second gain region portion of said waveguide structure adjacent to the second reflector; an outcoupling

aperture positioned between said first and second gain region portions on said waveguide structure, to couple light out of said waveguide structure.

With respect to claim 9, Itagaki discloses in Fig.3 electrodes 20 comprising two parts.

With respect to claim 11, Itagaki discloses the fiber waveguide mode matched with the outcoupling aperture (col.6, 1.29-30).

With respect to claim 13, Itagaki discloses the laser device 100 is integrated with other elements 16,20 on a substrate 10 in Fig.3.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itagaki (US5602863) in view of Schimpe (US4743083).

With respect to claims 5 and 18, Itagaki disclose all limitations of the claims except for the reflective surface. Schimpe teaches the reflective surface (col.5, 1.49). For the benefit of reflecting the light, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Itagaki the reflective surface as taught by Schimpe.

With respect to claim 17, Schimpe discloses the dielectric coating (col.27, 1.44).

With respect to claim 19, Schimpe discloses a grating with circular grating 20 in Fig.1A.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itagaki (US5602863) in view if Horimai et al. (US5917798). Itagaki discloses all limitations of the claim except for the beam splitter. Horimai teach the beam splitter 17 in Fig.2. For the benefit of spitting the laser beam, it would have been

obvious to one having ordinary skill in the art at the time the invention was made to Itagaki the beam splitter as taught by Horimai.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itagaki (US5602863) in view of Pepper (US5926494). Itagaki disclose all limitations of the claim except for the holographic optical element. Pepper teaches the holographic lens (col.8, l.55). For the benefit of obtaining a good light beam, it would have been obvious to one having ordinary skill in the art at the time the invention was made to Itagaki the holographic lens as taught by Pepper.

Claims 21-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itagaki (US5602863) in view of Schimpe (US4743083).

With respect to claims 21, 23, and 25, Itagaki discloses all limitations of the claim except for a reflective layer. Schimpe teaches the reflective surface (col.5, l.49). For the benefit of reflecting the light, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Itagaki the reflective surface as taught by Schimpe.

With respect to claims 22 and 24, Itagaki discloses the gain region having multiple parts in Fig.3.

With respect to claim 26, Itagaki discloses the laser device 100 is integrated with other elements 16,20 on a substrate 10 in Fig.3.

### Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

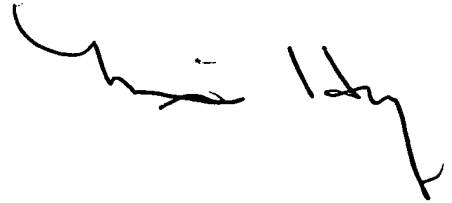


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Michael Dung Nguyen



MICHAEL DUNG NGUYEN  
PRIMARY EXAMINER